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APPLICATION NO..	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/873,622	06/04/2001	Kent Davey	2103.047	4056

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EXAMINER

DAY, HERNG DER

ART UNIT

PAPER NUMBER

2128

DATE MAILED: 08/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/873,622

Applicant(s)

DAVEY, KENT

Examiner

Herng-der Day

Art Unit

2128

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 June 2001.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-10 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 04 June 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-10 have been examined and claims 1-10 have been rejected.

Priority

2. Applicant's claim for domestic priority under 35 U.S.C. 119(e) is acknowledged. The provisional application number is 60/209,736, filed June 5, 2000.

Drawings

3. Fig. 2 and Fig. 3 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application.

Specification

4. The disclosure is objected to because of the following informalities:
Appropriate correction is required.
 - 4-1. It appears that equation (8) as shown at page 7 of the specification is incorrect because it mixes time domain with frequency domain.
 - 4-2. It appears that equation (17) as shown at page 10 of the specification is incorrect because not all the parentheses are in pair.
5. The incorporation of essential material in the specification by reference to a foreign application or patent, or to a publication is improper. Applicant is required to amend the

disclosure to include the material incorporated by reference. The amendment must be accompanied by an affidavit or declaration executed by the applicant, or a practitioner representing the applicant, stating that the amendatory material consists of the same material incorporated by reference in the referencing application. See *In re Hawkins*, 486 F.2d 569, 179 USPQ 157 (CCPA 1973); *In re Hawkins*, 486 F.2d 579, 179 USPQ 163 (CCPA 1973); and *In re Hawkins*, 486 F.2d 577, 179 USPQ 167 (CCPA 1973).

5-1. The attempt to incorporate essential material into this application by reference to three publications of Applicant, as described at pages 11 and 12, is improper because an application for a patent when filed may incorporate "essential material" by reference only to (1) a U.S. patent, (2) a U.S. patent application publication, or (3) a pending U.S. application.

6. The Examiner requests copies of the publications referred to at pages 1 and 2 of the specification because they appear to be reasonably necessary to the examination of this application and cannot be found.

Claim Objections

7. Claim 1 is objected to because the equation as recited at step c) is incorrect. Appropriate correction is required.

Double Patenting

8. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible

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harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

8-1. Claims 1-10 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-10 of U.S. Patent No. 6,527,695 B1. Although the conflicting claims are not identical, they are not patentably distinct from each other because they are all directed to maximizing stimulation by using membrane voltage equation for optimizing parameters including core reluctance and winding resistance.

Claim Rejections - 35 USC § 101

9. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

10. Claims 1-9 are rejected under 35 U.S.C. 101 because the inventions as disclosed in claims are directed to non-statutory subject matter.

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10-1. Claims 1-9 claim a method of optimizing a magnetic core, however, they are not in the technology arts.

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

12. Claim 10 is rejected under 35 U.S.C. 102(b) as being anticipated by Davey et al., U.S.

Patent 5,725,471 issued March 10, 1998.

12-1. Regarding claim 10, Davey et al. disclose a magnetic core (magnetic core, column 3, lines 14-17).

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure.

Reference to Epstein et al., U.S. Patent 6,132,361 issued October 17, 2000, is cited as disclosing a transcranial Brain stimulation.

Reference to Davey, U.S. Patent 6,491,620 B1 issued December 10, 2002, and filed March 3, 2000, is cited as disclosing an apparatus for simulating a transcranial magnetic stimulator.

Reference to Davey, "Magnet Design Optimization Using Variable Metrics", IEEE Transactions on Magnetics, November 1995, pages 3566-3568, is cited as disclosing a three step process to determine optimum magnet designs.

Reference to Ruohonen, "Transcranial Magnetic Stimulation: Modelling and New Techniques", Doctoral Thesis, Department of Engineering Physics and Mathematics, Helsinki University of Technology, 1998, is cited as disclosing modeling TMS.

Reference to Davey, "Use of Tensor Product Splines in Magnet Optimization", IEEE Transactions on Magnetics, May 1999, pages 1714-1717, is cited as disclosing the usefulness of tensor product splines in magnetic optimization.

Reference to Davey, "Rotating Field Analysis Using Boundary Element Methods", IEEE Transactions on Magnetics, May 1999, pages 1402-1405, is cited as disclosing the boundary element analysis.

14. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Herng-der Day whose telephone number is (703) 305-5269. The Examiner can normally be reached on 9:00 – 17:00.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Jean Homere can be reached on (703) 308-6647. The fax phone numbers for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Herng-der Day *H.D.*
July 21, 2004

Thai Phan
Thai Phan
Patent Examiner
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